

Healthy Beaches:
Maine Coastal Swim Beach Risk Notification System
2/2003

Introduction

The Environmental Protection Agency (EPA) initiated the Beaches Environmental Assessment, Closure, and Health (BEACH) Program in response to the growing concern about public health risks posed by polluted coastal bathing beaches. In Maine, municipal officials, state park staff and volunteers take water samples at coastal swim beaches for Enterococci, an indicator of recreational water-borne illnesses. Technical support, education, equipment and training is provided through the Coastal Swim Beach Program Advisory Board and program partners. The data is used by municipalities, state agencies and the U.S. Environmental Protection Agency. The “Healthy Beaches” program is working to prevent recreational water-borne illnesses in freshwater areas.

Scientific evidence documenting the rise of infectious diseases caused by microbial organisms in recreational waters continues to grow. The number of coastal beach closures reported every year in the US is also on the rise. To counteract this growing problem and to ensure public notification when they may be at risk of illness and disease, the EPA has established a national program to protect public health at the nation's beaches. In general, Maine has safe water for recreational use but it is critical that preventative measures be created. This will assure the public that Maine's waters are safe for recreational use and protect human health in the future.

This document is meant to guide beach managers and municipalities in providing timely and accurate notification of coastal swim beach conditions to the public. Note that these procedures differ from those that guide corresponding actions at fresh water beaches.

I. Indicator Organism Levels for Evaluating Recreational Water and Beaches

Monitoring for compliance with recommended levels of indicator organisms on a regular basis allows determinations to be made of the natural fluctuations of the numbers of those organisms. It also provides an understanding of their presence, in terms of their association with rainfall, storm water runoff, dry urban runoff, recreational use, or other conditions specific to a particular beach or water contact recreational. Water sampling will generally occur June 1st through September 1st, or whenever people are in contact with the water. Some beaches need to consider winter swim beach users such as surfers.

II. Evaluation of Recreational Water Quality

The following criteria are used in evaluation of recreational water quality:

- ❖ ***Enterococci: geometric mean of 58 per 100 ml, or a single sample of 104 per 100 ml***
- ❖ The State of Maine, Bureau of Health, recommends a risk based approach in conjunction with actual water (bacterial) samples when determining recommendations for beach closure. Routine beach water sampling must have correlating environmental finding based upon, among other things, sanitary surveys, in order to better interpret test results. ***The Risk Assessment Matrix is the tool by which a beaches' potential health risk can be fully determined and it should be used in conjunction with routine water sampling to make recommendations about beach conditions.*** Additional sanitary surveys and other related evaluations, including more frequent sampling if levels appear to be on an increasing trend, are strongly recommended.

III. Beach Closure/No Swim Advisory Procedure

Legally, the State can not close a beach without a court order (see appendix A for legal background information). A town can not close a beach unless they have an ordinance granting that power (see appendix B for model ordinance). If there is an obvious health risk, the Health Officer can give written order to close that beach. This order could be contested in court by the beach owner. Closure decisions are ultimately the responsibility of the towns and state parks with guidance from the coordinator and the Maine Bureau of Health. Generally, the Bureau of Health will not mandate a closure, but rather recommend a posting “no swim advisory” signage to notify the public of the increased risk by swimming in waters with elevated risk conditions or hazards. Municipalities may choose to use the “no swim advisory” signage as necessary, based on beach water conditions.

IV. Corrective Action

If deemed necessary, the closure will include a posting with warning signs and/or flags, or other techniques, to restrict use of the recreational area until corrective action has been taken and standards or guidance levels are met. The process should include procedures for determining advisories, sign posting, use of the flag system and public notification, as well as procedures for providing updated information. Sign postings, along with the display of a red flag, are the advisable manner to stop swimming on beaches. The Department of Human Services will not close beaches to swimming but these current state guidelines indicate that the municipality (and DHS licensed establishments such as campgrounds) are to post a "no swimming" advisory.

Beaches which are sampled in accordance with the Maine Coastal Swim Beach Monitoring Program, using both routine sampling and the Risk Assessment Matrix, are encouraged to post “Open” signs (see section VI.) to communicate to the public that the beach is monitored and deemed safe for recreational use. Beaches that fail to meet standards should post an advisory notice (see section VI.) which may read “Warning: Swim at Your Own Risk.” Beaches that pose a significant health risk due to severe contamination from a sewage spill or other event should be posted with “Warning! Closed to Swimming” signs (see section VI.).

Additionally, beach management is encouraged to use the flag system to increase the visibility of the open/closed notification. The green flag signifies open conditions and the red flag signifies an advisory of “no swimming” conditions.

Communication of closure status at State or town owned beaches to the general public is presently accomplished by updating the ME DEP web site. Updates are accomplished by state park or town personnel the same day significant sample results are received from the regional laboratory. The state park or the town immediately communicates the closure status of any state or town beach with appropriate local health officials and the media by telephone or email.

IV. Reopening Beaches with No Swimming Advisory or Closed Conditions

Removal of postings and the reopening of no swim advisory/closed recreational areas is appropriate when a sample demonstrates concentrations of the indicator organism are lower than those presented in Section II. A follow-up sample should be taken and analyzed within 24 hours of a reopening/advisory removal to be sure the condition has not persisted and the sample was

representative of conditions. Beach managers should consider the information provided in the risk assessment matrix in addition to the water quality samples when making decisions about when to reopen or remove advisory signage.

V. Public Notification

Notification may be provided to the public by signs, the flag system, press releases, telephone hotline, electronic access and other means. It is the responsibility of the municipal government to notify the public of swim beach recreational water conditions. Signage, technical support and educational resources are available from members of the Coastal Swim Beach Advisory Board (see contacts at the end of document).

VI. Signs and Flags

Signs and flags should be present near the portion of the recreational area at which water contact will occur, and elsewhere (e.g., along walkways to the beach, park entrances) where they are likely to be read/seen. Sign and flag placement along a beach is best determined by local experience. Text should be large enough to be clearly seen and legible. Signs should be posted in English and other language(s) as appropriate. Signs should accompany flags in order to provide the best possible information to the public.

Beaches which are sampled according to the Coastal Swim Beach Monitoring Program protocol, are encouraged to place signs indicating that the beach is monitored and deemed safe. Signs may read:

OPEN

This beach is open for swimming and water contact activities
The water meets state standards for acceptable conditions
For more information about water quality at public beaches contact:
Local authority/beach manager or
visit Maine's Healthy Beaches web site: <http://www.state.me.us/dep/blwq/beach.htm>

These signs must be removed or changed to reflect advisory or closure should the recreational waters fail to meet standards and corrective action should follow. Such as sign may read:

WARNING: SWIM AT YOUR OWN RISK

This beach is unsafe for swimming or water contact activities
This beach does not meet state standards for acceptable bacteria levels
For more information about water quality at public beaches contact:
(Local authority/beach manager such as the health officer) or
visit Maine's Healthy Beaches web site: <http://www.state.me.us/dep/blwq/beach.htm>

If the recreational area is closed because of sewage spills or other similar contamination, signs should be posted that indicate the closure. Language should be similar to the following:

**WARNING! CLOSED TO SWIMMING AND ALL WATER CONTACT ACTIVITIES.
SWIMMING WATER IS CONTAMINATED
AND MAY CAUSE ILLNESS.**

Other signage may be appropriate, as determined by local agencies. As examples, a variation of the international sign, with a graphic depiction of a swimmer in a red circle with a diagonal hash mark, may be useful in some locations, or signs in a second language may be appropriate if a large percentage of recreational waters only speak that language.

If a storm drain at a recreational area is chronically contaminated, the area affected by the storm drain should be posted with language similar to the following:

WARNING! STORM DRAIN WATER
MAY CAUSE ILLNESS
NO SWIMMING IN STORM DRAIN WATER

VII. Press Releases

Notification of beach closures because of rainfall and urban runoff, sewage spills, or other public health concerns by print and electronic media is appropriate. Such notification should be considered supplemental to posting at the beach and on the DEP Healthy Beaches web site. All press releases should come from the local health authority or beach manager. Press releases should include the contact information listed at the end of this document to enable the public to find additional information about the Coastal Swim Beach Monitoring Program.

VIII. Electronic Access

Notification of beach closures because of rainfall and urban runoff, sewage spills, or other public health concerns by means of recorded messages accessible by a telephone hotline is recommended. Additional public information may be provided by electronic bulletin boards, the Internet, or local television.

Maine's "Healthy Beaches web site is: <http://www.state.me.us/dep/blwq/beach.htm>

IX. Other Information

To minimize person-to-person microbiological contamination, the Local Health Officer and/or Beach Management may provide visitor education programs and present information on sanitary practices, consisting of notices posted at the beach/park entrances and flyers given to individuals. An example of such information is alerting the public to the importance of encouraging children to use restrooms periodically throughout the time that they are at the beach. Because of the likelihood of microbiological contamination of recreational waters by the recreating public themselves, a public education campaign (postings, brochures, public service announcements) will be implemented. Such a program could encourage good hygiene practices, avoidance of swimming while ill, control (where feasible) of accidental fecal releases among infants and young children, (including recommendations for swim diaper wearing in recreational waters). It could also discuss the increased probability of sharing pathogenic organisms when large numbers of people share recreational waters. The Coastal Swim Beach Monitoring Program advisory committee members have educational resources which are available to beach managers and municipalities that request them.

Coastal Swim Beach Monitoring Program Contact Information:

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For more information about the Healthy Beaches (Fresh Water) contact:

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Maine Coastal Swim Beach Program Advisory Committee

- Maine Coastal Program, State Planning Office
- University of Maine Cooperative Extension and Sea Grant
- Maine Bureau of Health
- Maine Department of Human Services
- Maine Department of Environmental Protection
- Maine Department of Marine Resources
- Maine Department of Conservation
- US Environmental Protection Agency, Region 1
- Mount Desert Island Water Quality Coalition
- Maine Surfrider Foundation
- City of Portland
- Casco Bay Estuary Project
- Maine Health and Environmental Testing Laboratory
- Portland Water District
- Maine Environmental Laboratorians Association